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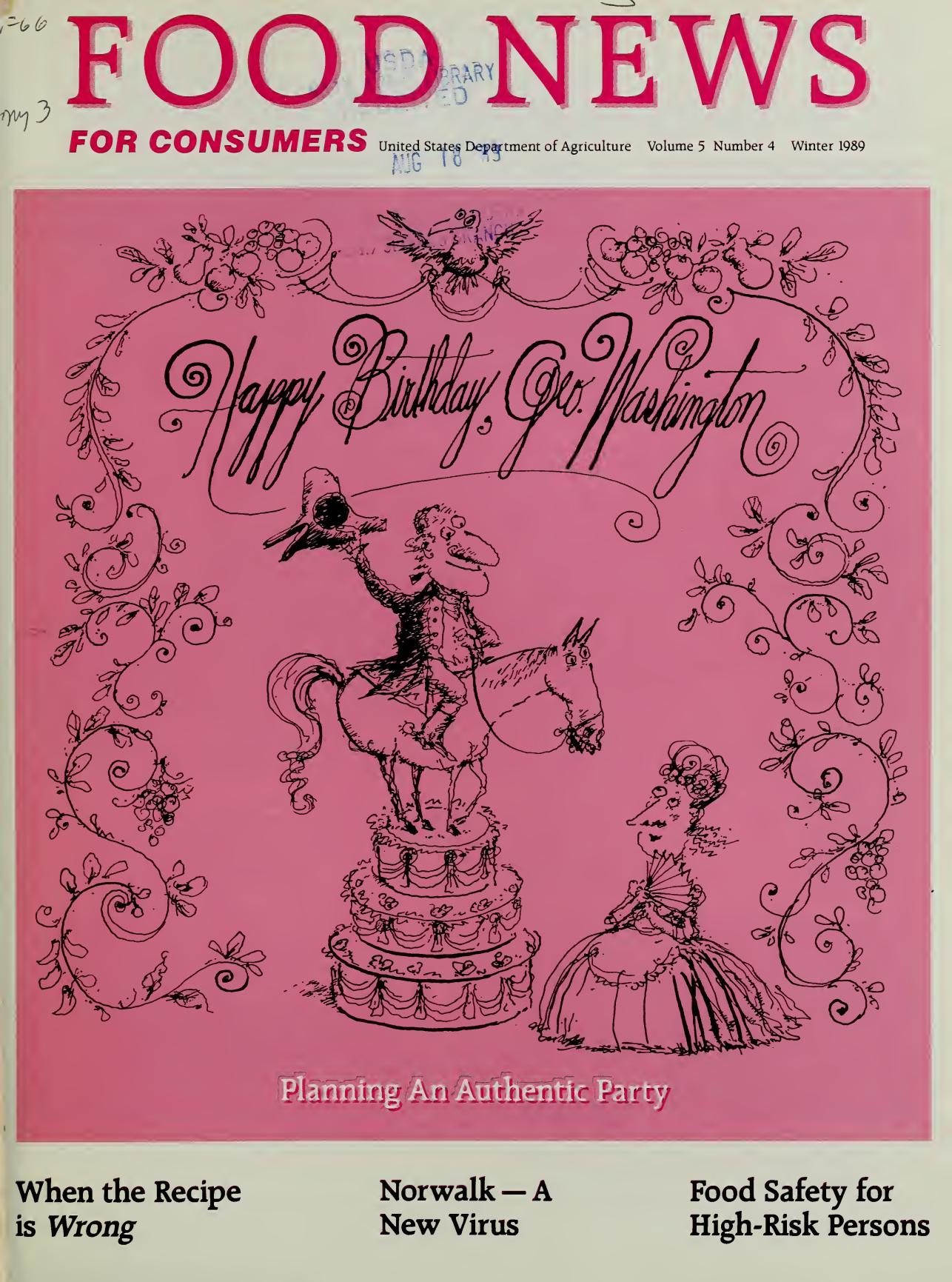
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FOOD NEWS

FOR CONSUMERS

United States Department of Agriculture Volume 5 Number 4 Winter 1989

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Happy Birthday, Geo. Washington

Planning An Authentic Party

When the Recipe
is Wrong

Norwalk — A
New Virus

Food Safety for
High-Risk Persons

FOOD NEWS

FOR CONSUMERS

Winter 1989
Vol. 5, No. 4

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Ask the Consumer Advisor



Dear Consumer Advisor:

One of my New Year's resolutions is to go on a diet. I know I should cut back on fat. What foods should I avoid?

Dear Reader:

Congratulations on going on a diet. Losing weight takes a lot of will power. But approaching weight loss with the idea that you must avoid certain food groups is usually not successful in the long run. It's more sensible—and more enjoyable—to eat lower-fat foods in the four major food groups. These are: fruits and vegetables, dairy products, breads and cereals, and meat, poultry and fish.

Our surveys indicate that people who avoid or cut back on certain foods, presumably to lose weight, don't always substitute foods that are lower in fat. For example, people who cut back on meat do not necessarily reduce fat intake because they may eat other foods that also have fat, such as cheese, rich desserts, or salads with lots of dressing. Also, cutting back on meat significantly reduces the intake of important nutrients that a healthy body needs, including iron and zinc. In other words, the trade-off may not be a wise choice. You could end up with just as much fat and fewer nutrients!

Before starting any diet, consult your physician. He knows best how to help you avoid a trap that could harm your health. Also, if you have children under the age of 2 who seem a bit plump, do not place them on a fat-restricted diet, such as skim milk. It could result in the "failure to thrive syndrome," in which the child will not grow or develop normally due to malnutrition. Finally, if you have any teenagers on diets, tell them that cutting down on red meat and dairy products can result in growth and development problems as well. Trade-offs could be hazardous. Consult a doctor, registered dietician, or qualified nutritionist.

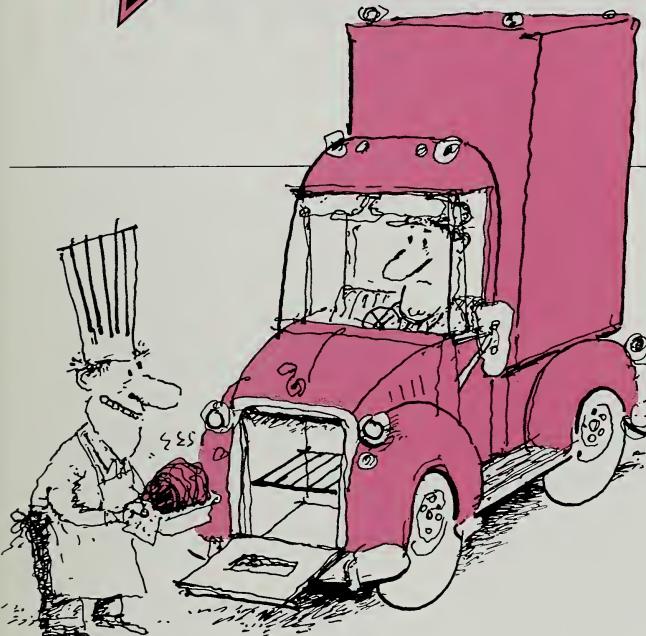
The bottom line is that we still want to make sensible choices, whether we're trying to lose weight or maintain it. There are lots of ways to do this. People who make small, rather than drastic, dietary changes are more likely to adopt better eating habits as a new way of life. That's the key to success.

Sincerely,

Ann Collins Chadwick

ANN COLLINS CHADWICK, DIRECTOR
Office of the Consumer Advisor
Phone: (1-202) 382-9681

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Hotline Calling

But the Recipe Says...

Perhaps you've seen some of the "crazy" recipes — fish "cooked" in the dishwasher, eggplant sauteed on a truck engine?

Needless to say, we have to tell people who call USDA's Meat and Poultry Hotline that such methods probably aren't safe.

But we also get questions on less bizarre cooking directions that could cause bacterial illness.

In these cases and in answering the recipe questions that follow, we score recipe directions against this food safety checklist to see how they "measure up."

1 First, keep all food preparation areas clean. Wash hands in warm soapy water before preparing food. Wash hands and utensils after contact with raw meat and poultry.

2 Never use a recipe that asks you to leave perishable food off refrigeration over 2 hours. This includes thawing and marinating.

3 Always finish cooking a food in a single step.

4 Make sure you have a constant heat source when cooking.

5 For cooking, never set the oven under 325° F.

6 Finally, promptly refrigerate or freeze leftovers. Divide large quantities into smaller containers for quick cooling.

Q. I have a really great recipe for the "woman on the go." It calls for combining raw rice, canned soup and seasonings. Raw pork chops are placed on top.

The recipe says the casserole can be assembled and refrigerated until you're ready to cook. You bake it in a 250° F oven for several hours. Is this safe?

A. Cooking meat or poultry at a low temperature can be dangerous. Some bacteria could be in the raw pork. Additional bacteria could enter the casserole during preparation.

The low baking temperature could promote the growth of these bacteria. Raising the oven temperature to 325° F, our recommended minimum baking temperature, will just about halve the cooking time. Enjoy your dinner.

Q. A newspaper article says turkeys or hams cooked in brown paper grocery bags turn out extra tender. Also, I've heard you can use plastic containers like margarine tubs in the microwave. Is this safe?

A. We don't recommend the use of utensils, dishes or bags that are not originally meant to be used in cooking.

Dishes and utensils designed for use with foods must meet strict standards and specifications. Brown bags often are composed of recycled materials that could cause a fire, or contain

chemicals that could leech into the food you're cooking. Margarine tubs aren't intended for heating to microwave temperatures — the container could melt into your food!

Q. A friend recently gave me a recipe in which beef cubes are marinated for several hours. Then this same marinade is used as a dipping sauce. I've heard you shouldn't re-use marinade that's been on raw meat, but my friend says it's okay, because that's what the recipe says. Who is right?

A. You are. Marinade that has held raw meat contains raw juices. These juices may contain bacteria that, if eaten, could make you sick.

Even if the marinade contains an acid ingredient to slow bacterial growth, it will not destroy bacteria. If the recipe calls for using the marinade as part of a dipping sauce, bring it to a full boil for several minutes. Otherwise, reserve some for dipping in the first place and use the rest to marinate. REMEMBER, marinate foods in the refrigerator.

Q. My microwave oven has a four-stage memory. The oven cookbook says I can put a frozen roast in the microwave in the morning and set the oven on "timed bake" to defrost and later cook the meat for dinner. It also

says the oven will hold the food at serving temperature until I'm ready to serve it. Is this safe?

A. From a safety standpoint, we can't recommend this procedure. The frozen meat will begin to thaw during the seven or so hours it stands in the oven before the microwave turns on. During this time, bacteria may grow in the thawed areas.

Also, once the meat cooks and is being kept warm by the "hold" function, it's crucial that the temperature be kept at 165° F or above to prevent bacterial growth. It would be hard to determine whether an oven was doing that.

Q. My recipe for potato salad calls for cooked, cooled potatoes. It says to cook the potatoes the night before, cool them at room temperature overnight and prepare the salad the next morning. I've heard so often lately that foods should not sit out. Are vegetables different?

A. While fresh vegetables may be safely kept at room temperature — only the quality may deteriorate — cooked vegetables can support rapid bacterial growth which could result in foodborne illness.

Bacteria — found in the soil and all around — are present in fresh vegetables, but the skins act as a barrier. However, when vegetables are cooked or cut, bacteria enters the flesh and can grow well in the carbohydrate atmosphere. Refrigeration deters growth, so definitely, cool your potatoes in the refrigerator.

Q. My crockpot cookbook suggests baking a whole, stuffed chicken in it. The idea of a baked, stuffed chicken ready for dinner when I get home from work sounds great, but something about this idea makes me uneasy.

A. We share your concern. Crockpots are a great way to safely cook some foods, but also present some

potential food safety problems. Poultry stuffing is a prime medium for bacterial growth, and it's possible that the chicken juices contain some bacteria. Since the crockpot does take a long time to achieve a safe, high temperature, bacteria could multiply in the starchy stuffing.

We suggest using smaller, uniform cuts of meat in your crockpot, following a recipe that contains liquid, like a soup or stew. The broth creates a steamy atmosphere that efficiently kills bacteria.

Q. I saw a nice recipe for pasta in cream sauce on a pasta package. I thought I'd fix it for a church supper this week. But it calls for raw eggs to be combined with a cream mixture, then with the hot pasta. The eggs are never cooked. I hear now that eggs should be fully cooked. What do you think?

USDA's Meat and Poultry Hotline, 1-800-535-4555, currently receives some 4,800 consumer calls each month.

A. Recent studies have led researchers to believe that salmonella may be present in the yolks of some eggs. So we're recommending that eggs be thoroughly cooked to kill the bacteria.

This is especially important for young children, older people, and those who are ill or immune compromised. For your church supper, you'd do well to find another recipe.

Also, the time the casserole would spend out of the refrigerator in transit to the church would increase the potential bacterial growth.

Q. I saw a chef on TV demonstrate the "Chinese method" of cooking. He put a whole chicken in a pot of water, brought it to a boil and then turned off the heat. The chicken was to finish cooking just sitting there in that pot of hot water. Is that enough heat to complete the cooking?

A. It may very well not be enough heat to safely cook the chicken. We do not recommend trying to cook with only residual heat.

In the time it takes to complete the cooking, bacteria may grow because the temperature of the water may not be high enough to kill them. *Never try to cook without a constant heat source.*

Q. A magazine article on today's busy families suggested some do-ahead recipes. One for Irish stew calls for browning the meat the night before, then assembling the meat, sauce and pre-cut vegetables just before popping the stew in the microwave at dinner time. What do you think about this?

A. While partial cooking ahead seems like a good way to save time, it can be unsafe. A high enough temperature must be reached in the meat to kill any bacteria that may be there. This may not happen in the browning step.

Then the remaining bacteria could grow in the warm food as it cools, even when refrigerated. The second cooking at mealtime may or may not kill that bacteria.

Especially since the microwave may not cook evenly and cold spots can occur in the food, it's best not to take the risk.

Instead, thoroughly cook the meat ahead. Refrigerate it. Then add it to the hot stew mid-way in microwaving to warm the meat and complete the dish. Put the combined mixture back in to finish microwaving and remove for any recommended standing time.

— Written by Susan Templin and the Hotline Staff

Introducing the NORWALK VIRUS

by Mary Ann Parmley

You say you just learned how to pronounce "salmonella" and don't want to hear any more about food poisoning right now?

That's understandable.

However, the Norwalk virus is rapidly gaining ground as a health threat.

There have been outbreaks from contaminated water, shellfish, cole slaw, salads, baked goods and, recently in Pennsylvania and Delaware, from ice.

Leading food virologist Dr. Dean Cliver, at the University of Wisconsin, estimates that Norwalk and other Norwalk-like viruses could account for some 40 percent of all serious, non-bacterial foodborne illness.

What makes Norwalk such a problem? First, perhaps, the fact that it is a virus. Unlike bacteria, which attack the body like soldiers mounting a pitched battle, viruses are guerrilla fighters.

Viruses don't attack so much as *infiltrate*. They literally invade human cells and turn the cell's genetic material from its normal function to producing the virus itself.

Second, Norwalk is an extremely virulent or infective organism. "With Norwalk," says Dr. Cliver, "we think it normally takes only 100 to 1,000 viral particles to make you sick. And in some cases, it may take just a few."

Another measure of the threat Norwalk poses is its attack rate. "Assuming 100 people are exposed to Norwalk spread by an infected food handler to something served at a large

dinner," says Cliver, "you can predict that some 60 to 80 people will become ill. That's an attack rate of 60 to 80 percent. Compared to an attack rate of 20 to 40 percent for most other foodborne illness, you see that Norwalk is quite potent."

A possible explanation of why Norwalk's attack rate is so high is that, while many adults test positive for antibodies to the virus — which means they've already had the illness once — they don't seem to have developed much real immunity. People can get the disease again and again.

What is the Norwalk viral illness like? Reports indicate that people normally show symptoms — diarrhea, nausea, vomiting, abdominal pain, headache and fever — within 1 to 2 days after exposure. Symptoms are usually

Narrowing the Norwalk Threat

1. Wash your hands thoroughly in hot, soapy water before preparing food. "This is important advice," says Dr. Fout, "because this virus is frequently transmitted from an infected person's hands to the next victim's mouth."

Commercial food preparers should also use a disinfectant on their hands and wear gloves that they change from one operation to the next. "Millions of Norwalk particles can be in a single stool globule on someone's hands," says Dr. Cliver.

2. Don't drink untreated water. Boil water when camping or travelling in suspect areas. This will also protect you from hepatitis and other viruses.

3. Shellfish

- Eating raw shellfish.** The elderly, the very young, cancer or AIDS patients, diabetics, and people with liver or chronic digestive diseases are advised not to eat raw shellfish. They are at risk not only for Norwalk but for a number of other serious viral illnesses.

Healthy persons eat raw shellfish at their own risk. Shellfish are defined as oysters, clams, mollusks, scallops, snails, whelks and cockles.

- Buy shellfish from reputable, licensed dealers.** This reduces the risk that it was harvested from unsafe waters.

- Refrigerate shellfish at 32-40° F.** Store live shellfish in a shallow dish covered with damp paper towels. Storing them in water or in an airtight container kills them.

Use mussels and clams in the shell in 2-3 days; oysters in the shell in 7-10 days. If shells open, tap them. If they don't re-close, discard.

Freshly-shucked clams, stored in a covered jar, will keep 1-2 days; shucked scallops, 2-3 days; shucked oysters, 5-7 days.

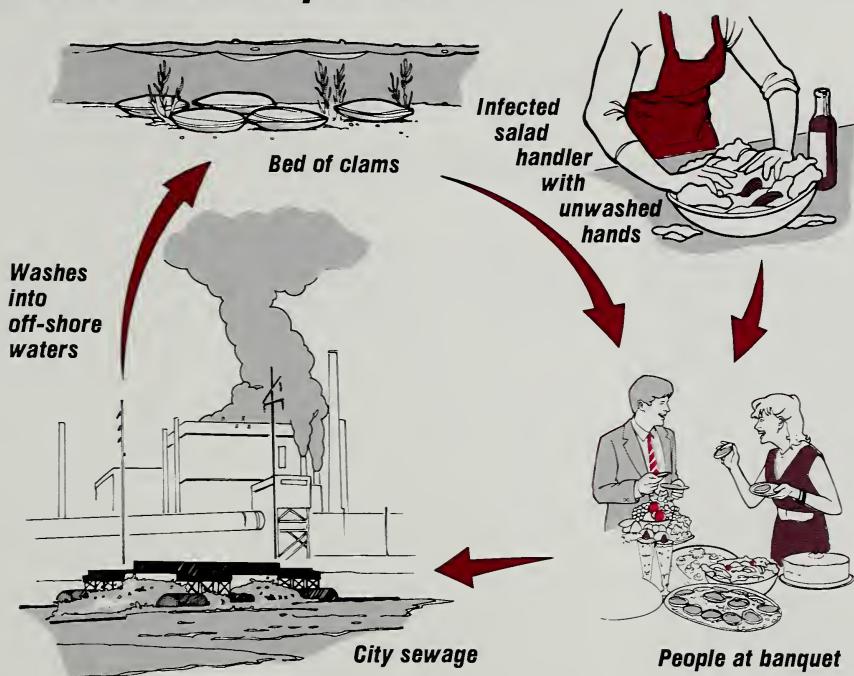
Commercially frozen shellfish lasts in the freezer up to 6 months; home-frozen shellfish, 3-6 months. Longer freezing cause quality loss.

- Cooking.** Cover and continue steaming shellfish for 5 minutes after they open.

Shucked shellfish look plump and opaque when well cooked, which normally takes 4-5 minutes in a boiling mixture. Scallops firm to a milky white. Oysters curl at the edges and may shrink slightly.

- Leftovers.** Refrigerate cooked shellfish dishes for use in 2-3 days.

How Norwalk Spreads



severe enough so that victims call a doctor; some may visit an emergency room. Acute discomfort lasts a day or two.

Serious problems can result from dehydration, and deaths have occurred among the elderly.

Let's look at some actual case histories for a better idea how the Norwalk virus works. In 1979, the Australians reported Norwalk problems in shellfish. In 1980, there was trouble in Florida oysters and New York clams and oysters.

Then there was the blockbuster buttercream frosting incident. In 1982, one man mixing icing for a Minneapolis-St. Paul area bakery caused some 3,000 illnesses. Investigators said the infected worker mixed the uncooked frosting in a giant vat with his bare arms in the icing up to the elbows.

From 1983 to 1985, there were more shellfish incidents in the U.S., including 888 verified cases in New York State alone. Shellfish are a problem because they feed by filtering nutrients from the water. Unfortunately,

they also filter out and store bacteria and viruses.

In a 1986 camping incident, some 135 people on a trip to a South Dakota campground got Norwalk from contaminated water. Apparently sewage was seeping into a well whose chlorination system was not working properly. Even if the chlorination system had been working, though, there still could have been a problem. The Norwalk virus appears to be resistant to chlorine and other sewage-treatment agents.

The virus can even survive freezing! Two related outbreaks in 1987 involved ice produced by a Pennsylvania company that supplied the product to Philadelphia's Franklin Field stadium and to a museum fund-raiser in Wilmington, Del.

The cause of the problem, it turned out, was that the company's wells had been contaminated by flooding from an infected stream.

Well now you've heard the bad news — Norwalk resists chlorine, survives freezing, is highly infective and the body doesn't build immunity to it very well.

The hopeful side of things is based on the virus's limitations. "Norwalk," explains Dr. Cliver, "is a very host-specific virus. It multiplies in the cells in the human gut, passes out and can't grow again until it reaches another human gut. It can only *sit* in food. It can't multiply in food as bacteria do."

Norwalk is also killed by thorough cooking. Therefore, other than water-contracted infections, says Dr. Shay Fout, a microbiologist for the Food and Drug Administration, there are only three ways Norwalk can spread from food to human hosts:

- Shellfish, vegetables or fruit, infected by human sewage in coastal waters or from seepage and run-off in fields, are eaten raw or undercooked.
- Food that won't be cooked or is only partially cooked becomes contaminated with viral particles from the body of an infected food handler, usually from this person's hands.

- Food is recontaminated after preparation or cooking by contact with viral particles from an infected food handler.

Handling "Historic" Foods for a Washington's Birthday Party



by Mary Ann Parmley

Had you been living in Alexandria, Va., in 1799, you might have taken part in a gala, all-day celebration of Washington's birthday.

Retired and living at Mt. Vernon, just 8 miles from Alexandria, Washington was one of the most popular figures of his day.

What were the Alexandria festivities like? There was a cannon salute at dawn, a sham battle and even a "mock surrender," honoring Washington's military exploits.

"The evening was concluded," says a contemporary newspaper account, "by a ball and supper given at Mr. Gadsby's (tavern) . . . The house was elegantly illuminated; the ballroom adorned with a transparent likeness of General Washington."

Mark Reed, assistant director at Gadsby's Tavern Museum, says, "Unfortunately for those of us who try to re-create these dinners, we know more about what people wore and how the rooms were decorated than about the food served. Probably they had game meats or ham, some root vegetables available in mid-winter, breads, and a myriad of drinks, punches and desserts."

Even after Washington's death, the birthnight balls continued, growing ever more elaborate.

The showpiece dessert at an 1805 ball at Gadsby's was "a large cake ornamented with an equestrian statue of General Washington, the whole cover'd with a sugar candy net in the form of a cone on the top of which was the American Eagle."

While you might conclude that obesity was the chief kitchen threat of the 1700s, the real problem was fire. That's why kitchens were often separate, small structures at some distance from the main house.

The other main problem was lack of refrigeration. Curing, drying, salting, pickling, spicing, sugaring and preserving in liquors were the chief means of keeping food.

There were also no kitchen thermometers, so old recipes give elaborate descriptions of hot fires, low coals and the way puddings should "bubble" as substitutes for more precise directions on how long things should be cooked for doneness.

By comparison, party preparation is a much simpler matter today. Food safety can be easy, too, if we're just extra careful in handling large quantities of food or food to be served buffet style.

Why? If you make a food handling mistake cooking for a crowd, large numbers of people are affected. And food set out for serving must be carefully monitored because food poisoning bacteria love room temperatures. Many multiply fastest between 85-100°F.

As you read these updated recipes, then, for re-creating a Washington's Birthday celebration, pay special attention to the safe handling tips. (Also see "Party Food Tips.")

Now for our recipes. As the game entree, why not try roast duck? If you're short of time, see if a Chinese restaurant with carry-out would just roast the duck (or ducks) for you plain — without adding a sauce.

You could then either serve the duck immediately at your Washington's Birthday dinner or refrigerate it, later adding an 18th-century port wine sauce before serving.

An elegant sauce from Nancy Carter Crump's *Hearthside Cooking** (p. 171) calls for $\frac{3}{4}$ cup port wine and $\frac{1}{8}$ tsp. fine-ground red pepper. Add in duck drippings and boil the sauce briefly to thicken. You can add a pinch of salt for taste.



When you re-heat the duck, make sure it comes to an internal temperature of 180°F. Insert the meat thermometer in breast or leg, not touching bone or fat.

For a buffet, the duck can be carved, laid in the boiling wine sauce and served from a chafing dish.

If you use a chafing dish, make sure it's holding the meat at 140°F. or above, and don't let the duck sit in the server over 2 hours. This prevents problems with bacteria that can grow at warm (100-110°F) chafing dish temperatures and cause food poisoning.

Probably you'll have salad, which our forebears could not have enjoyed mid-winter, so for your "root vegetable," how about a tantalizing and authentic "ragoo" of onions?

*Nancy Carter Crump — *Hearthsie Cooking*, EPM Publications, McLean, Va., 1986.

Onion Ragoo

4 tbsps. butter	1/4 cup chicken stock
3 cups chopped onion	1 rounded tsp. French mustard
2 tbsps. flour	1/4 cup browned bread crumbs
1/2 tsp. salt	
1/4 tsp. pepper	

— *Hearthsie Cooking*, p. 196

In a saucepan over moderately low heat, melt butter. Add onion. Stir until light brown and tender. Add flour, salt, pepper. Blend well. Simmer briefly. Blend in stock and mustard, stir until thickens. Pour into serving dish and garnish with bread crumbs.

Again, from a food safety standpoint, if you serve the onions in a chafing dish, make sure they register 140°F or above.

If you don't have a chafing dish, refrigerate the starchy ragoo. Then reheat or microwave smaller servings for passing around at intervals during the party. Never leave the serving dish out over 2 hours, as bacteria can grow quickly in warm, starchy food held at room temperature.



Okay, so far you have duck in port wine, salad and rich, stewed onions. What about those festive drinks and punches?

A popular milk punch or posset was syllabub.

Very Fine Syllabub

5 cups cream	2 cups white wine
1 1/2 cups sugar	1 cup sack or cream sherry
Juice, rind of 3 large lemons	
(Makes 3 quarts)	

— *Hearthsie Cooking*, p. 84

Combine cream with sugar and lemon rind in a large bowl. Set aside.

Combine wine, sack and lemon juice and very slowly beat into cream mix. Whip until syllabub is light and frothy, about 10 minutes.

Pour into wine glasses, cover with plastic wrap and chill overnight to ripen flavor and allow cream to rise to the top.

Because this cream mixture could allow bacterial growth, serve the punch straight from the refrigerator.



To end the evening in style, offer a syllabub toast to George Washington. Here's an authentic 1797 tribute: "May the hearts of his contemporaries, as well as those of succeeding ages, never cease to be grateful." You can almost see Martha, smiling behind her fan.

Interested in history?

Each February, Alexandria holds a Birthnight Ball and other living history activities honoring Washington. Call 1-703-838-4200 or write the Alexandria Tourist Council, 221 King St., Alexandria, Va. 22134.

Party (& Everyday) Food Tips

1. Keep it safe, refrigerate.

Refrigerate food you'll use quickly. Freeze raw meat or poultry you can't use in 1-2 days. Freezer should register 0°F; refrigerator, 40°F.

2. Don't thaw food on the kitchen counter.

Bacteria multiply fast at room temperature.

3. Wash hands in warm, soapy water before preparing food. Wash hands and utensils after touching raw meat and poultry.

Wash cutting boards and work surfaces too. Don't let bacteria migrate from raw foods to other dishes.

4. Never leave perishable food out over 2 hours.

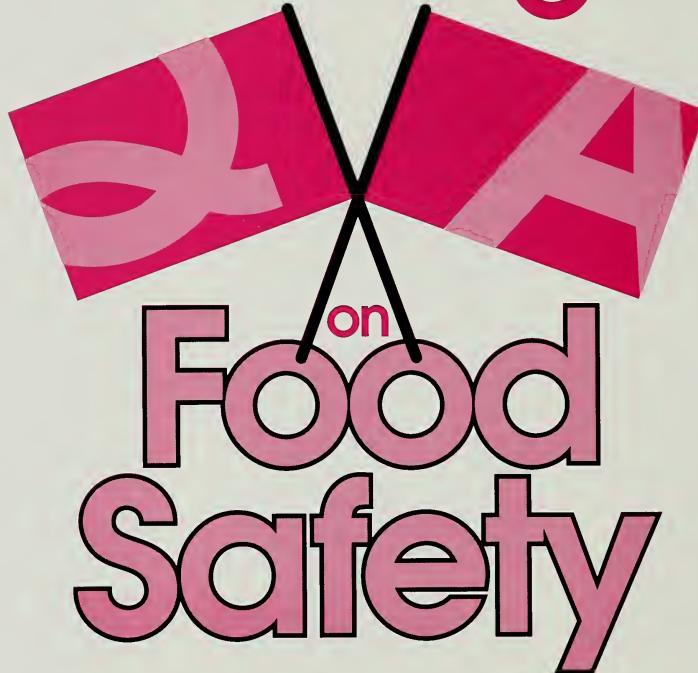
5. Thoroughly cook raw meat, poultry and fish.

6. Freeze or refrigerate leftovers promptly.

To reuse, heat to bubbling — 185°F.



Red Flags



by Linda Russell

Some victims of foodborne illness face a greater risk than others of becoming seriously ill. They are the elderly, infants, pregnant women and chronically ill people. Our immune systems take a while to fully develop, change during pregnancy, and weaken with age or during various illnesses.

Even healthy people with normal immune systems react differently to foodborne bacteria. Health officials often find that among people who have eaten food containing harmful organisms, some will show no symptoms of illness, while others become seriously ill.

This is the advice home economists on the USDA Meat and Poultry Hotline have given people who should take extra care to avoid foodborne illness.

Q. My mother is elderly and has gum problems. One of her favorite foods is soft-cooked eggs. Yet I've read a lot recently about salmonella in eggs. What should I do?

A. As far as nutrition and food safety are concerned, eggs can remain an important part of many people's diets.

Meanwhile, the U.S. Department of Agriculture and other researchers are still looking at the question of how eggs become contaminated with salmonella.

Until more information is available, consumers are advised to play it safe and cook eggs thoroughly. This means that eggs should be cooked until the yolk is not runny and the white is firm. Cook scrambled eggs until firm.

Foods that contain raw eggs, such as Caesar salad or homemade ice

cream and eggnog, should be avoided. Commercial products of this type are safe, since they use pasteurized eggs, and the pasteurization kills bacteria.

Also, avoid recipes that contain lightly cooked eggs, such as chilled chocolate mousse or the meringue on a lemon pie.

Q. I remember when my mother kept farm-fresh eggs in a basket on the counter. Is this okay or do they have to be kept refrigerated?

A. Definitely keep them refrigerated. In fact, do not keep eggs out of the refrigerator for more than 2 hours, including preparation and serving time. If you hide hard-cooked eggs for an egg hunt, either follow the 2-hour rule or do not eat the eggs.

In addition, serve cooked eggs and egg-rich foods hot, immediately after

cooking, or refrigerate them at once for serving later. Use them within 3 to 4 days. When refrigerating a large egg-rich dish, divide it into several shallow containers so that it will cool quickly.

Q. How can I tell if an egg contains salmonella?

A. There is no way that you can tell, short of testing it in a laboratory. To be safe, handle all eggs properly. Use grade AA or A eggs with clean, uncracked shells. Refrigerate them in the original carton at a temperature no higher than 40°F.

Use raw shell eggs within 5 weeks. Wash your hands after handling eggs. And be sure to clean blenders and other appliances and utensils after they have come in contact with raw eggs and before they are used for anything else.

Q. My husband has always enjoyed rare roast beef. Should he give up one of his favorite foods now that he is ill and the doctor says his immune system is weakened?

A. Eating any raw or undercooked meat, poultry, fish or eggs can lead to foodborne illness. Perhaps once your husband understands the risks of undercooked meat, he can develop a taste for "medium."

For maximum food safety, beef should be cooked to an internal temperature of at least 160°F, which is medium. Pork should be cooked to 160°F, veal and lamb to 170°F, and poultry to 180°F for doneness.

Q. My toddler is just starting to enjoy regular food, such as chicken. How can I make my kitchen safe from bacteria that may harm my child?

A. Generally, an infant's immune system should be well developed by one year of age. However, for reasons that are not fully understood, children seem to be more likely to get salmonellosis than adults.

There are several basic rules that everyone should follow for a safe kitchen:

- Keep hot foods hot and cold foods cold. Defrost meat and poultry in the refrigerator, not on the counter. Cool stews or roasts, divided into small portions, in the refrigerator, not on the counter.

Remember to place items cooling in the refrigerator in such a way that the air circulates around them freely. Refrigerate leftovers promptly.

- Cook meat, poultry, fish and eggs thoroughly.

- Avoid cross-contamination. After working with raw meat, poultry, fish or eggs, wash the counter, cutting board, utensils and your hands thoroughly with warm, soapy water.

Too often, people will cook meat thoroughly, but leave the juices from the raw meat on the cutting board where they contaminate the salad or other food that won't be cooked.

Q. I'm now hearing about a disease called listeriosis. Is this something new?

A. During the 1980s, listeriosis has emerged as a troublesome foodborne illness. It comes from the bacteria *Listeria monocytogenes*, which is found frequently in the environment. It can be found in soil, fruits, vegetables, milk, fish, meat and poultry. The disease is rare, but can be deadly. Outbreaks have been traced to raw cabbage, soft cheese, and other dairy products. Scientists are currently trying to find out more about listeria and how it can affect humans. It mostly affects people who have weakened immune systems.

To guard against this risk, cook meat, poultry, fish and eggs thoroughly. Do not drink raw (unpasteurized) milk or consume products made with it.

Q. I'm on a fixed income and don't like to waste food. How long can I keep hotdogs and lunchmeats in my refrigerator?

A. Pay attention to storage times or "use-by" dates for cooked, ready-to-eat products — such as hotdogs and lunchmeats — because of listeria.

Unlike many other bacteria, listeria can grow at refrigerator temperatures. If a ready-to-eat product contains listeria, the bacteria could grow slowly for as long as the product is in your refrigerator.

Check dates on packages that you buy. Then, once hotdogs or lunchmeats are opened, store them no longer than a week in the refrigerator. They'll keep 1-2 months in the freezer.

Q. I am expecting my first child and understand that I am now more at risk for serious foodborne illness. Is that true and what can I do?

A. It is true that your immune system is undergoing some changes during your pregnancy. However, if you follow the basic food safety rules, everything should be fine.

To protect yourself and your unborn child from listeria, thoroughly cook meat, poultry, fish and eggs, and never drink raw milk or consume products made with it.

Also, you need to be careful to avoid a disease called toxoplasmosis. Humans can get it from eating undercooked meat, or from contact with cats.

While you're pregnant, avoid eating undercooked or raw meat and have someone else change any litter boxes. The problem is that the parasite that causes toxoplasmosis cycles through the cat's digestive system.

In general, it is a good idea to keep pets away from the kitchen and to wash your hands after touching any animal.

Home economists on USDA's toll-free Meat and Poultry Hotline will be glad to answer any questions you have about the safety of meat, poultry and eggs. Call 1-800-535-4555 from 10 a.m. to 4 p.m. Eastern time. Callers in the Washington, D.C. metropolitan area should dial (202) 447-3333. Both numbers provide access to a telecommunications device for the deaf.

Pass the Shaker of Cholesterol Dissolver, Please

How would you like to be able to eat eggs and butter without worrying about cholesterol? Some cholesterol in the body is necessary for life, but abnormally high amounts in the blood are linked with cardiovascular disease.

Dr. Donald C. Beitz, a nutritional biochemist at Iowa State University's Agriculture and Home Economics Experiment Station, is working with other scientists to develop a way to inactivate cholesterol in animal products.

They are trying to isolate an enzyme which converts cholesterol into coprostanol, a closely related compound that the human digestive system cannot absorb. The enzyme, cholesterol reductase, occurs naturally in the human digestive system where it converts some of the cholesterol consumed into coprostanol. About half the remaining cholesterol is absorbed by the blood and the rest is excreted.

The researchers have discovered that the leaves of cucumbers, corn, soybeans, and peas also contain cholesterol reductase. They are working to extract it from the leaves, purify it, and then test its ability to inactivate cholesterol in meat and dairy products.

Cholesterol reductase could then be added to foods by either the processor or the consumer. Dairies could mix it with homogenized milk

or with cream for making butter. Meat packers could add it to ground meats during processing. Consumers could even sprinkle it on food or in drinks a few minutes before serving them, as the reductase needs a little time to work.

Adding the enzyme won't change the food's taste, since both cholesterol and coprostanol are flavorless and odorless.

"We hope that this enzyme will make life on a low-cholesterol diet much easier," said Beitz.

For more information, contact Dr. Donald C. Beitz, Iowa State University, Ames, Iowa. Telephone: 1-515-294-5626.

—Liz Lapping

Polling the Experts on Foodborne Illness

Salmonella — that's the number 1 foodborne illness problem according to microbiologists USDA's Food Safety and Inspection Service polled recently.

FSIS staff have been interviewing microbiologists and other foodborne illness experts in an effort to "tailor" our consumer education efforts to areas of greatest health risk.

Why did 11 government, academic and industry microbiologists agree that salmonella will be the paramount concern of the next 5 years?

"Probably because most reported instances of foodborne illness are still salmonella infections," said Carl Custer, an FSIS microbiologist.

Several issues shared billing as second place concerns in the experts' scoring. They are the training of commercial food handlers, use of partially cooked products, the problem of listeria bacteria and food products in new and (to the consumer) "unknown" packaging.

"We've always known one untrained commercial food handler can make a lot of people sick," Custer said.



Partially cooked foods are a concern because they haven't been subjected to the "bacterial kill" you get with thorough cooking, Custer explained.

Concern about listeria emerged in the 1980s along with the disturbing news that listeria is one of a number of bacteria that can grow at refrigerator temperatures.

"Since listeria bacteria can cause miscarriage and stillbirth, it poses a particular risk for pregnant women," Custer added.

Concern about bacteria that grow in refrigeration means that food scientists today are looking closely at a new group of products that promise a longer useful life in the refrigerator.

This includes new products in vacuum packs and products in modified atmosphere packs — where special gas mixtures are used to retard spoilage.

"You have to remember that while new packaging techniques inhibit some bacteria, they can allow the growth of others," Custer said.

Ten of the 11 microbiologists *agreed* that adequate care labeling — cooking and handling instructions printed on packages — could influence consumer habits for the better, reducing the chance for foodborne illness.

For more information on the study, call Sharin Sachs, project coordinator, 1-202-447-9113.

— Sharin Sachs

USDA Approves New Labeling Program

Incentive labeling is a program under development at USDA in which companies that take extra steps to improve the microbiological safety of their products can make special claims to that effect on the label.

The intent of the incentive labeling program is to encourage industry to put more elaborate control systems in plants so they can produce improved products. The USDA inspection program will continue to ensure that all meat and poultry products are safe, wholesome and meet inspection standards.

To qualify for incentive labeling, the company must be able to identify critical control points in production where contamination may occur, identify the control procedures that will be used at these points, and define corrective actions that will be taken should a problem occur.

The company must also gather baseline data that USDA will evaluate to see how well the company is operating. Inspectors will monitor plant records and conduct verification sampling of the product. In addition, the plant must operate the new system on a two-month trial basis so in-plant personnel can ensure that what is presented in the plan represents reality. Then the plant will be placed on a three-month probationary period. If the control program fails in any way, approval can be withdrawn.

The label for products approved under this program will bear the standard claim approved by USDA — "Exceeds USDA Requirements for Consumer Protection."

Incentive labels will also require a USDA-approved statement that explains the plant's microbial control program.

For more information on incentive labeling, contact:

Ashland Clemons, Standards and Labeling Division, USDA,
1-202-447-4293.

— Liz Lapping



Photo courtesy of National Live Stock and Meat Board, Chicago, Ill.

USDA takes a new look at point-of-purchase materials.

While not actually a label, the poster in this photo — a promotional device — may well be viewed by the shopper as a source of information just as valid as the product label itself. So USDA will now be looking harder at these materials when companies make dietary claims (low cholesterol) or statements about how animals were raised (no antibiotics). In such cases, should the issue of truthfulness arise, the company will have to prove their claims.



In A Stew Over Food Safety?

Call the USDA Meat
and Poultry Hotline
for food safety facts.

800-535-4555 Washington, DC 447-3333
10:00 am-4:00 pm Eastern Time

*Professional home economists will answer your
questions about proper handling of meat and poultry,
how to tell if it is safe to eat, and how to better
understand meat and poultry labels.*

A public service of this publication and the U.S. Department of Agriculture.





Eating Right When You're Sick

Some foods and drugs don't go together. For example, some types of penicillins you take for infections lose their effectiveness when taken with food.

In other cases, food may help reduce the stomach upset that drugs can cause. Aspirin and ibuprofen, the common pain relievers you take when you have a headache, are two drugs that are best taken with food.

Some types of drugs can hurt you when taken at the same time. In order to help you get well quickly, your physician or pharmacist should know about *every* drug you are taking—including those bought without a prescription.

For a free copy of the pamphlet, *Food and Drug Interactions*, call or write the Food and Drug Administration, 5600 Fishers Lane, Rockville, Md. 20857, 1-301-443-1544.

It's Mid-Winter — Do You Know What Your Refrigerator is Registering?

Everyone can give you the mileage their car gets, but very few know some other vital statistics—the temperatures their refrigerator and home freezer are keeping.

Why are these numbers important? Because most food spoilage and food poisoning bacteria don't grow at cold temperatures. Therefore, a properly functioning refrigerator and freezer are your first line of defense against food poisoning.

Here are the magic numbers. Your refrigerator should register a frosty 40°F or just under; your freezer 0°F or just below.

Buy an inexpensive appliance thermometer and check.

Getting The Best of Montezuma

Montezuma's revenge can ruin any trip. But help is on the way from an unlikely source: cows.

Researchers at the University of Maryland have devised a way to enrich cow's milk with antibodies that prevent traveler's diarrhea. It works the same way that mothers pass on antibodies to their children through breast milk.

The scientists, led by Dr. Carol Tacket, injected pregnant cows with several bacteria that cause traveler's diarrhea. The cows then developed antibodies to the bacteria, which they secreted in their colostrum, the first milk produced after birth.

Tacket gave one group of volunteers a concentrate of the colostrum with antibodies, while another group received samples without the antibodies. Then both groups drank water laced with the diarrhea-causing bacteria. None of the volunteers who received the concentrate with antibodies got diarrhea; nine of the ten in the control group did develop diarrhea.

For further information, contact Dr. Carol Tacket, University of Maryland Medical School, 10 South Pine Street, Baltimore, Md. 21201, 1-301-328-5328.

Surimi?

Surimi may be the hottest new protein source around. Never heard of it? You're not alone. The word doesn't even appear in American dictionaries.

So what is it? Surimi has been well-known in Japan for hundreds of years. It is made from minced fish that has been washed to remove undesirable matter such as fat and blood pigment. American surimi is usually made from food fish such as Alaskan pollock, a bland but plentiful white fish.

You may have already eaten surimi. One of its most popular uses in the United States is in the imitation crab legs and shrimp now showing up in grocery stores.

To make the seafood substitute, surimi is blended with other ingredients such as natural shellfish, flavoring, salt, water, starch, egg whites and phosphates. Then it is heat-processed and molded into products that resemble the natural shellfish. A common blend is 80% surimi and 20% natural shellfish.

Surimi is now moving into meat and poultry products. Last June, USDA approved the use of surimi in a cured meat blend. The product is called "Spicy Bites," a breaded pork nugget that will contain 15% surimi.

With its low cost, high protein and low cholesterol, surimi may be a hit with today's consumers.

— Linda Swacina

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